UK Hydrological Outlook

Delivered in partnership by: UK Centre for Ecology & Hydrology

Period: From July 2024

Issued on 09.07.2024 using data to the end of June 2024

SUMMARY The outlook for July suggests normal to above normal river flows in south-east England and normal flows elsewhere. For the July-September period, normal river flows are expected across the country. Groundwater levels are forecasted to be above normal in July, with normal to above normal levels anticipated for the July-September period.

Rainfall:

In contrast to previous wet months, June saw below average rainfall across England, Wales, and Northern Ireland, with some regions in southern and central England receiving less than 50% of their typical June rainfall. Northern Scotland, however, experienced above-average rainfall, particularly in the far north. According to the Met Office forecast issued on 01.07.2024, likelihoods for all the possible rainfall outcomes (dry, near-average and wet) are close to normal in July and in the July-September period.

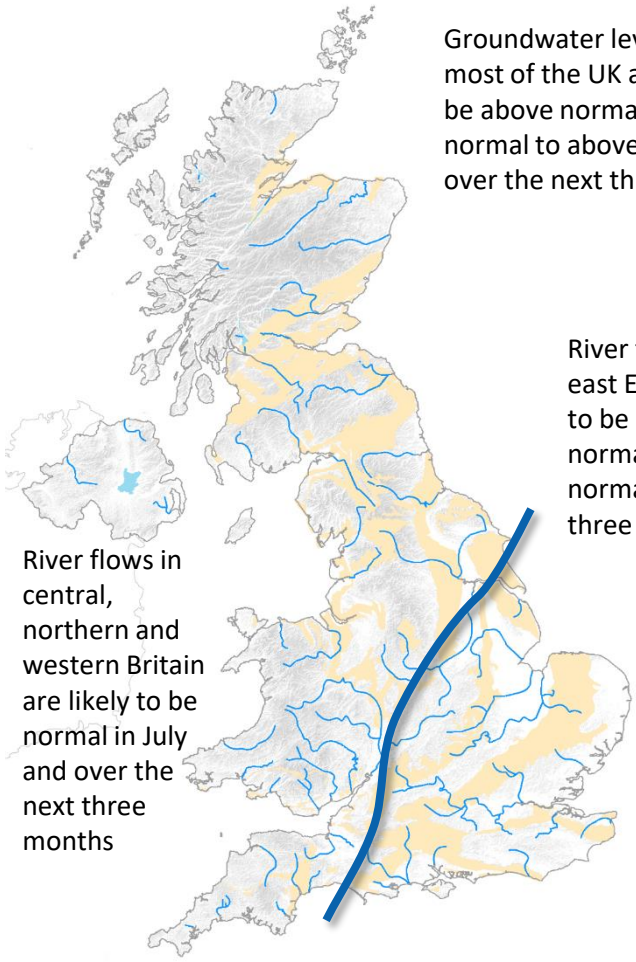
River flows:

River flows in June were generally normal across the country, though there was some variation. Above normal river flows were observed at some sites in south-east England, central, and northern Britain, while below normal flows were recorded at some sites in south Wales and south-west England. The forecast for July is for normal to above normal river flows in south-east England, with a likelihood of notably high flows persisting in some groundwater-fed catchments. Elsewhere, normal flows are expected. Outlooks suggest that below normal flows may continue in Wales and south-west England, although early July rainfall reduces this likelihood. Similarly, the July-September outlook favours normal flows across the country, with a chance of above normal flows persisting in parts of the south-east, particularly in groundwater-fed rivers.

Groundwater:

Groundwater levels in June were mostly above normal, and notably or exceptionally high levels were widespread across the country, with a few sites registering new June maxima.

The outlook for July is for a continuation of normal to above normal levels across most of the UK, with locally notably high (and occasionally exceptional) levels expected. The three-month outlook is similar, although in some of the faster responding boreholes such as those in central, northern England and south Wales, levels are expected to recede towards normal.



Groundwater levels across most of the UK are likely to be above normal in July and normal to above normal over the next three months

River flows for south-east England are likely to be normal to above normal in July and normal over the next three months

River flows in central, northern and western Britain are likely to be normal in July and over the next three months

Shaded areas show principal aquifers

The UK Hydrological Outlook provides an outlook for the water situation for the United Kingdom over the next three months and beyond. For guidance on how to interpret the outlook, a wider range of information, and a full description of underpinning methods, please visit the website: www.hydoutuk.net

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About the UK Hydrological Outlook:

This document presents an outlook for the UK water situation for the next 1-3 months and beyond, using observational datasets, meteorological forecasts and a suite of hydrological modelling tools. The outlook is produced in a collaboration between the UK Centre for Ecology & Hydrology (UKCEH), British Geological Survey (BGS), the Met Office, the Environment Agency (EA), Natural Resources Wales (NRW), the Scottish Environment Protection Agency (SEPA), and for Northern Ireland, the Department for Infrastructure – Rivers (DfIR).

Data and Models:

The UK Hydrological Outlook depends on the active cooperation of many data suppliers. This cooperation is gratefully acknowledged. Historic river flow and groundwater data are sourced from the UK National River Flow Archive and the National Groundwater Level Archive. Contemporary data are provided by the EA, SEPA, NRW and DfIR. These data are used to initialise hydrological models, and to provide outlook information based on statistical analysis of historical analogues.

Climate forecasts are produced by the Met Office. Hydrological modelling is undertaken by UKCEH using the Grid-to-Grid and GR6J hydrological models. Hydrogeological modelling uses the AquiMod model run by BGS.
Supporting documentation is available from the Outlooks website:
https://hydoutuk.net/about/methods

Presentation:

The language used in the summary presented overleaf generally places flows and groundwater levels into just three classes, i.e. below normal, normal, and above normal. However, the underpinning methods use as many as seven classes as defined in the graphic to the right, i.e. the summary uses a simpler classification than some of the methods. On those occasions when it is appropriate to provide greater discrimination at the extremes the terminology and definitions of the seven class scheme will be adopted.

	Percentile range of historic values for relevant month
Exceptionally high flow	> 95
Notably high flow	87-95
Above normal	72-87
Normal range	28-72
Below normal	13-28
Notably low flow	5-13
Exceptionally low flow	< 5

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Further information:

For more detailed information about the UK Hydrological Outlook, and the derivation of the maps, plots and interpretation provided in this outlook, please visit the UK Hydrological Outlook website. The website features a host of other background information, including a wider range of sources of information which are used in the preparation of this Outlook. Dynamic access to many of the outputs of the UK Hydrological Portal are available on the UK Hydrological Outlooks Portal.

Contact:

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Reference for the UK Hydrological Outlook:

UK Hydrological Outlook, 09 July 2024, UK Centre for Ecology & Hydrology, Oxfordshire UK, Online, https://www.hydoutuk.net/latest-outlook/

Other Sources of Information:

The UK Hydrological Outlook should be used alongside other sources of up-to-date information on the current water resources status and flood risk.

Environment Agency Water Situation Reports: provides summary of water resources status on a monthly and weekly basis for England: https://www.gov.uk/government/collections/water-situation-reports-for-england

Flood warnings are continually updated, and should be consulted for an up-to-date and localised assessment of flood risk:
i. Environment Agency: https://flood-warning-information.service.gov.uk/map
ii. Natural Resources Wales: https://flood-warning.naturalresources.wales/
iii. Scottish Environment Protection Agency: https://www.sepa.org.uk/flooding.aspx

Hydrological Summary for the UK: provides summary of current water resources status for the UK: https://nrfa.ceh.ac.uk/monthly-hydrological-summary-uk

UK Met Office forecasts for the UK: https://www.metoffice.gov.uk/

UK Water Resources Portal: monitor the UK hydrological situation in near real-time including rainfall, river flow, groundwater and soil moisture from COSMOS-UK: https://eip.ceh.ac.uk/hydrology/water-resources/

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